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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant:	Tsujimichi, et al.
Serial No.:	10/625,272
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Art Unit:	1793
Examiner:	Edward M. Johnson
Confirmation No.:	8414
Title:	**PHOTOCATALYTIC HYDROPHILIFIABLE MATERIAL**

RESPONSE TO NOTIFICATION OF NON-COMPLIANT APPEAL BRIEF

Board of Patent Appeals and Interferences
United States Patent & Trademark Office
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

In connection with the subject application, and further to the Notification of Non-Compliant Appeal Brief dated April 22, 2009, applicant / appellant encloses herewith a replacement for the section entitled, "Claims Appendix", and requests that such replacement section be entered in the application and that the Appeal Brief including such replacement section be entered in the application pursuant to 37 CFR 41.37. All necessary fees have already been paid for this Brief.

Favorable consideration and reversal of the final rejection are earnestly solicited.

Respectfully submitted,

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CERTIFICATE OF ELECTRONIC TRANSMISSION

I hereby certify that this correspondence is being electronically transmitted, via EFS-Web, to the United States Patent and Trademark Office, on April 24, 2009.

/J.P. Shende/

CLAIMS APPENDIX

Claim 53. A method for cleaning air, comprising the steps of:

contacting air with the surface of a composite material which is exposed to light; and

contacting the surface of the composite material with water, said composite material comprising at least a substrate and a surface layer, said surface layer being hydrophilic and self-cleanable, said surface layer comprising three components comprising:

a component (i) comprising a photocatalyst which functions as a catalyst upon exposure to light;

a component (ii) comprising at least one metal oxide selected from the group consisting of $A1_2O_3$, ZnO, SrO, BaO, MgO, CaO, Rb_2O, Na_2O, K_2O, and P_2O_5; and

a component (iii) comprising at least one metal oxide selected from the group consisting of SiO_2, ZrO_2, GeO_2, and ThO_2;

wherein components (i), (ii) and (iii) are all situated within said surface layer which is provided as a single surface layer, such that all of said components are in close proximity to one another within the single surface layer.

Claim 54. A method according to claim 53, wherein the composite material satisfies a/(a+b) of about 0.0001 to about 0.8, wherein a represents the weight of the metal oxide as the component (ii) and b represents the weight of the photocatalyst as the component (i).

Claim 55. A method according to claim 53, wherein the photocatalyst as the component (i) and the metal oxide as the component (ii) are contained in the form of particles having a diameter of about 0.005 to about 0.5 microns.

Claim 56. A method according to claim 53, wherein the composite material further comprises a component (iv), in said surface layer, comprising at least one antimicrobial metal selected from the group consisting of zinc, silver, and copper, and wherein the antimicrobial metal as the component (iv) is supported on the photocatalyst as the component (i).

Claim 57. A method according to claim 53, wherein the surface layer further comprises at least one metal selected from the group consisting of silver, copper, palladium, iron, nickel, chromium, cobalt, platinum, gold, rhodium, and ruthenium.

Claim 58. A method according to claim 53, wherein the surface layer further comprises at least one metal selected from the group consisting of lithium, calcium, magnesium, and aluminum in an amount effective for improving the hydrophilicity.

Claim 59. A method according to claim 56, wherein the composite material satisfies c/d of about 0.00001 to about 0.05 wherein c represents the weight of the component (iv) and d represents the weight of the photocatalyst as the component (i).

Claim 60. A method according to claim 53, wherein the surface layer has a geometry satisfying any one of the following requirements (1) and (2):

(1) thickness of the surface layer is about 0.01 to about 3.0 microns; and

(2) difference in color ΔE of the surface layer between before ultraviolet irradiation and after ultraviolet irradiation of the surface layer, with a 1% silver nitrate solution deposited thereon, for 5 min at an ultraviolet intensity on the surface layer of 1.2 mW/cm^2, is 1 to 50.

Claim 61. A method according to claim 53, wherein the composite material has a binder which is interposed between the substrate and the surface layer.

Claim 62. A method according to claim 61, wherein the binder is polymerizable or meltable below a temperature at which the substrate is deformed, to fix the surface layer onto the substrate.

Claim 63. A method according to claim 62, wherein the binder is a glaze or a paint.

Claim 64. A method according to claim 53, wherein the substrate is a tile.

Claim 65. A method according to claim 53, wherein the substrate is an earthenware, a wood, a calcium silicate material, concrete, a cement board, a cement extruded board, a plaster board, or an autoclave light-weight concrete board.

Claim 66. A method according to claim 53, wherein the composite material has an antimicrobial metal or a metal compound which is anchored on the surface of the surface layer.

Claim 67. The method of claim 53, wherein the components (i), (ii) and (iii) are all substantially intimately mixed and dispersed in the single surface layer.